

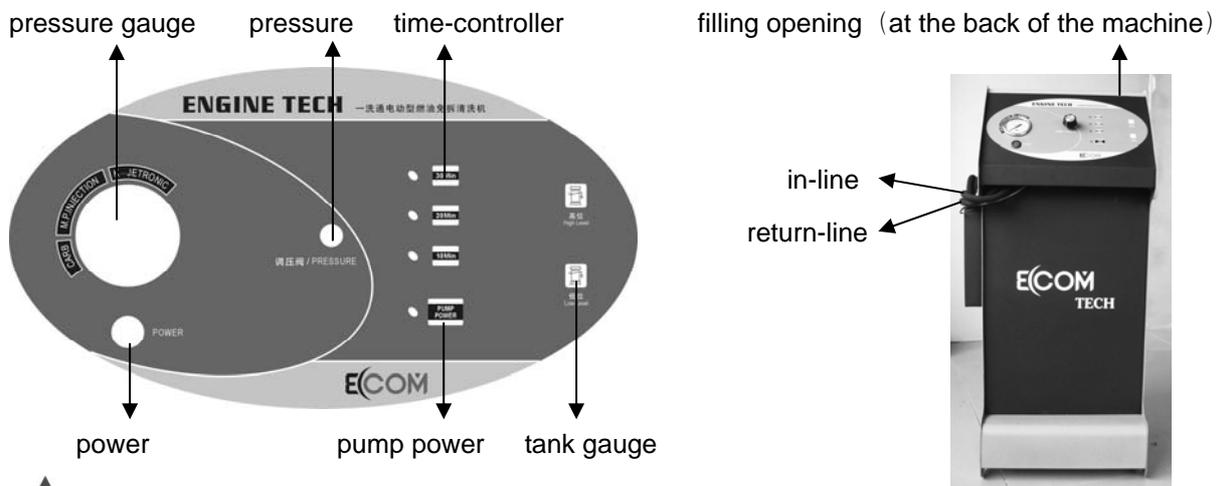
## Safety Guard

1. Please read the operating manual carefully
2. The manual is available to all kinds of engines.
3. Choose the right and good cleaning detergent to achieve the best effect.  
Better to use our special detergent.
4. Use DC12v only. No wrong connection, red is positive and black negative. No operation without oil in the tank.
5. No fire, no smoking, keep well ventilated. Prepare the powder fire extinguisher.

“ECCOM” Auto Carbon Cleaner uses submerged electronic pump with DC12V. It can adjust the pressure according to different vehicle models. It’s almost available to all kind of engines. Its function of cleaning intake manifold is strengthened in order to improve the motor vehicle maintenance. It can operate without taking off the engine. The operation is simple, safe and efficient.

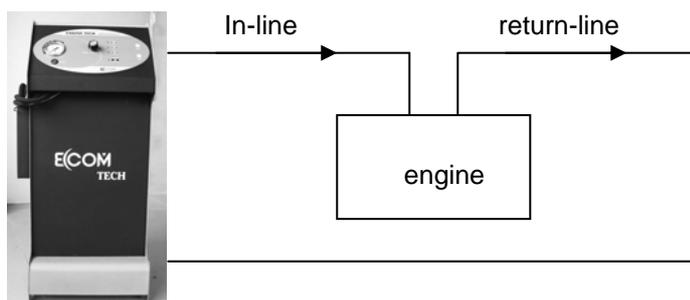
**I. Technical Parameter**

- 1、 operation voltage: DC12±0.5V ( with the battery )
- 2、 fuel Tank capacity: 4L
- 3、 time: 0-30min ( 10 min、 20 min、 30 min adjustable )
- 4、 system flow : 6L/ min
- 5、 system pressure: 0-8kg/cm<sup>2</sup>(adjustable)
- 6、 weight: 20 kg
- 7、 dimensions: 980x380x455mm



**! reference: when the fuel is in low level, the light will be on and alarm.**

**II. The Schematic Diagram of Working Principle**



### III. Complete Set of Equipment

- 1、 Auto carbon cleaner—the host machine
- 2、 A set of special joints for cleaning oil pipeline
- 3、 Convenient pushing wheel
- 4、 An Operating manual、 an inspection certificate、 an warranty card

### IV. Clean Operation

#### For Electric Engine:

- 1、 Switch on with DC12V.
- 2、 Prepare the mixture of petrol and cleaning detergent in fixed proportion, then put it into the tank from the filling opening in the back of the machine.
- 3、 Make sure the tank top off before cleaning in order to permit a freer passage of air and decrease the pipeline pressure.
- 4、 Identify the target injector is a carburetor、 an electronic injector or a mechanical injector, and its cylinder number .
- 5、 Find the in-line and return-line of the engine and pull the later out, then connect the return-line of the auto carbon cleaner to the engine with the right joint. Start the engine to help oil return to the oil storage tank.
- 6、 Pull out the engine's in-line. Connect the engine's in-line hole to the cleaner's return-line with a right joint in order to make oil flows from the in-line back to the tank through the return-line.
- 7、 Connect the cleaner's in-line to the engine's in-line hole with the help of a right joint. When the cleaner starts, it offers oil instead of the engine.
- 8、 Switch on again and check no joints leak. The leak joint should be repaired.
- 9、 Regulate the time of operation.
- 10、 10min for slow cleaning at first and 5min for quick cleaning later on. Slow again at last.
- 11、 The engine will be turned off automatically when the cleaning is finished. Please replace the car key switch board.
- 12、 Pull out all the auxiliary joints. Reset the in and out line of the engine. Start and accelerate the engine to check no joint or line leaks. Get the cleaner arranged for

the next use.

*For Carburetor Engine:*

- 1、 Please follow the safety instruction.
- 2、 Pull out the in-line of the petrol pump and Connect with a right joint to the cleaner's return-line. Start the engine and turn off it after injecting the oil to the cleaner's tank. The oil should be injected according to the number of the cylinder.
- 3、 Pull out the engine's return-line. Use the cleaner's return-line to connect with the carburetors'.
- 4、 Pull out the out line between the car tank and oil pump. Connect the cleaner's in-line with carburetor's in-line.
- 5、 Connect the in-line and return-line of the tank.
- 6、 While cleaning, 10min for slow operation and 5min for high speed operation. ( about 2000-2500RPM ) . Try that twice continuously or may several times while step on the accelerator.
- 7、 Turn off the engine after 30 min's operation or if the cleaning detergent is entirely consumed. Reset all the lines and check if anywhere leaks. If not, the cleaning is finished.

*For Diesel Engine:*

The cleaner can be available and efficient to small or medium size diesel engine vans and trucks with the load bellow 6.5t.

- 1、 Pull out the engine return-line; connect it to the cleaner with the cleaner's return-line.
- 2、 Start the engine, Start the engine and turn off it after injecting the diesel to the cleaner's tank. The diesel should be injected according to the number of the cylinder.
- 3、 Pull out the engine's in-line. Connect the tank's in-line and return-line.
- 4、 While cleaning, 10min for slow operation then 5min for high speed operation. ( about 2000RPM ) . Try that twice continuously and slow again.
- 5、 Turn off the engine after 30 min's operation or if the cleaning detergent is entirely consumed. Reset all the lines and check if anywhere leaks. If not, the cleaning is

finished.

Cleaning Procedure for Audi with Five-cylinders:

- 1、 Follow the normal steps to connect the in-line and return-line.
- 2、 off the filling opening when pressure gauge hand is shaking. Lock the nozzle valve to control the return oil.
- 3、 Step on the accelerator to start the engine. (Better to make it the first time, keep stepping.)
- 4、 Step off the accelerator gradually after starting
- 5、 If the car shakes when the operation is in 1000RPM, step on the accelerator and keep the speed to clean.
- 6、 If the car works normal, put half bottle of cleaning detergent into the cleaner tank in twice.
- 7、 Reset the car when all the detergent is consumed.

Operation with Fuel Tank:

- 1、 Pull out and identify the in-line and return-line on the tank.
- 2、 Connect the in-line and return-line of the tank and cleaner respectively.
- 3、 The other steps are similar with the above.

**V. Warning**

- 1、 If find any undesirable condition such as leaking and insufficient pressure, cut off the electric pump immediately, then turn off both cleaner and car engine.
- 2、 Decompress the cleaner and replace all the spare parts.

**VI. Test for Fuel Pump Pressure**

Connect the outlet line of the engine's fuel pump with the cleaner's. When turn on the pump switch and start the engine for a while, the pressure gauge shows the fueling pressure of the fuel pump.